BRUHAT BANGALORE MAHANAGARA PALIKE

Name of the Work :- Drilling of Borewell & Providing Water Supply in Ward. No -17, RR Nagar

Estimate Cost:- 100.00 Lakh

Sl. No	Description of Item	Unit	No	length in m	Width in m	Depth in m	Quantity	Rate in Rs	Amount in Rs
1	**Geophysical investigation** of site for Sinking borewell for supplying drinking water to the habitations either through the hand pump,MWS,P.W.S.S by vertical electrical sounding by adpoting venner or Schlumberger's method,including reconnaissance survey of Geological formation. Geophysical investigation of existing ground indecundity its quality & acceptability of the users indicating the location of site,recommended depth of casing pipe required to seal the top unconsolidated formation including an extra depth of 1.0 metre inconsolidated formation for proper seating of casing pipe,depth of drilling required to cover full depth of aquifer proposed to be tapped,probable yield and other information required including transportation of instrument and accesories to work site,engaging technical personal and labour required etc.,(Issue rate as on date 02/05/2019 It.13.04)								
		No	8				8.00	3768.00	30144.00
2	**Sinking borewell of 165 mm** dia clear using super fast hydraulic rig of capacity 300 PSIG & above 1100 CMF & above in all strata including over burden upto 20 M fixing of casing pipes, collars and cap with necessary cutting and threading including transportation of rig and supporting vehicals, crew charges and cost of consumables etc., complete including yield testing at the final depth with a minimum working of compressor for one hour .(excluding cost of casing pipes, collars, cap ect.) (Issue rate as on date 02/05/2019 It.13.01)								
	0 to 50 m	Rmt	8	50.00			400.00	347.00	138800.00
	50 to 100 m	Rmt	8	50.00			400.00	442.00	176800.00
	100 to 150 m	Rmt	8	50.00			400.00	456.00	182400.00
	150 to 200 m	Rmt	8	50.00			400.00	536.00	214400.00
	200 to 250 m	Rmt	8	50.00			400.00	634.00	253600.00
	250 to 300 m	Rmt	8	50.00			400.00	700.00	280000.00
	300 to 350 m	Rmt	8	50.00			400.00	825.00	330000.00
	350 to 400 m	Rmt	8	50.00			400.00	900.00	360000.00
	400 to 420 m	Rmt	8	20.00			160.00	1129.00	180640.00
3	Providing and fixing **250mm dia PVC (casing pipe)** (page no.XXXI, SL no.909) (KPWD SR 2016-17)								
		Rmt	8	6.00			48.00	2600.00	124800.00
4	Supply of ISI Mark **175mm** nominal Bore, Plain end **steel casing Pipe**-grade of steel Fee 4100 of wakk thickness 504mm thick confirming to IS 4270:2001 and latest amendments, electric resistance welded steel electric or basic oxygen process in fandom length of 5 to 7mtr. Both ends threaded confirming to Is554/1985 one end fixed with socket confirming to IS 270:2001 and other end with screwed pipes. All pipes shall be reasonably free from defectes. The tubes shall be resonably straigth should be with ISI Marking Weighting 25.10 kg/mtr (Inclusive of all taxes and durties) Prices include Collar - medium duty. (Page No.III,It no.84)PRED SR 2012-13.								
		Rmt	8	30.00			240.00	1325.00	318000.00
5	Providing **175mm Dia M.S. Collar** (P.No.iii,I.No.86) PRED SR 2012-13								
		No	40				40.00	150.00	6000.00
6	Providing **175mm dia Bore Cap** CE (M) (P.No.iii,I.No.85) PRED SR 2012-13								
		No	8				8.00	100.00	800.00
7	Atalanta suguna CRI **KIRLOSKAR** and other equipments **pumps** 10.00 **HP/7.5 KV (20 stage)** (Pg No. XLI. Sl.no.29) KPWD SR-2018-19								
		No	8				8.00	49955.00	399640.00

Sl. No	Description of Item	Unit	No	Estimate Cost:- length in m	Width in m	Depth in m	Quantity	100.00 Rate in Rs	Lakh Amount in Rs
8	Providing and fixing in trenches **galvinised/mild steel tube 50mm dia nominal bore** with all fittings (earth work in trenches to be measured and paid for seperately) including cost of all materials, labour charges,HOM of equipment and testing complete as per specifications. Specification No. KBS 13.2.14/13.6 (page no.92/It no.13.15)KPWD SR 2018-19.								
	Basic rate	388.00							
	A.W @ 6%	23.28							
	Total	**411.28**							
		Rmt	8	350.00			2800.00	411.28	1151584.00
9	Supplying and drawing **3 core flat PVC** sheathed submersible **pump cable** maufactured with electrolytic grade copper with flexible copper with low resistance conductor confirming to table 3 class 5 to IS 8130-1984 and virgin grade PVC insulation and powder coating extruded PVC sheathed suitable for working voltage upto 1100 volts with specified IS 694:1990 and confirming to the attwached GTP of group A 3CX4.0 sq.mm (PWD Ele SR 2019-20,P-7/It-2.6.3)								
	Add 5mts for Switching	Rmt	16	355.00			5680.00	126.70	719656.00
10	Providing and fixing in position **50mm Nominal bore non-return valve** vertical type of approved make including cost of all materials,labour and HOM of equipment with all leads complete as per specifications.(PWD SR 18-19,P-95/It no.13.62)								
	Basic rate	1269							
	A.W @ 6%	76.14							
	Total	**1345.14**							
		No	8				8.00	1345.14	10761.00
11	Spplying and fixing **50mm GI Union**.(PWD SR 2016-17,P-XXXIX)								
		No	8				8.00	223.70	1790.00
12	Spplying and fixing **50mm GI Elbow.**(PWD SR 2016-17,P-XXXIX)								
		No	8				8.00	111.80	894.00
13	Spplying and fixing **50mm GI Nipple.**(PWD SR 2016-17,P-XXXIX)								
		No	8				8.00	104.30	834.00
14	Spplying and fixing **50mm GI Hose colleres**(PWD SR 2016-17,P-XXXIX)								
		No	464				464.00	103.00	47792.00
15	Supplying and fixing 20" x 20" x 2.5" polished **wood board** made of not less than 15mm thick plank on both the sides with planks made out of not more than 2 pieces and fixing the same to the wall using tapered inverted wooden plugs screws etc., P.no.44 / I no. 201 KPWD ELE SR 2019-20								
		No	8				8.00	175.20	1402.00
16	Supplying and fixing miniature circuit breakers on existing **MCB distribution board** using necessary fixing materials and 'C' type curve indicator ON/OFF energy cross-3 with short circuit breaking capacity of 10K and complete wiring as required confirming to IEC 60898.(PWD Ele SR 2019-20,P-47/Sl no.5.17.8 40 Amps TPN)								
		No	8				8.00	2374.00	18992.00
17	Supplying of **TPST with rewirable porcelain** channels in SM encloser made out of 14 SWG powder coated point of approved colour 32 amps (PWD Ele SR 2019-20,P-44,It-5.5.1 32Amps)								
		No	8				8.00	1800.00	14400.00
18	Supplying and fixing **LED type panel board** indicating lamp with required colour suitable for 220 V AC 50 HZ 12/24 V DC(PWD Ele SR 2019-20,p-48,Sl no.5.38)								
		No	8				8.00	430.00	3440.00

Sl. No	Description of Item	Unit	No	Estimate Cost:- length in m	Width in m	Depth in m	Quantity	100.00 Rate in Rs	Lakh Amount in Rs
19	Suppling fully automatic **star delta starter** unit push button type with suitable wires 2 conductors and adjustable thermal timer mounted on a common base plate held in steel enclosure for use on 400/440 volts phase and wired after fixing to the existing wooden board for motor. upto 12.5HP(PWD Ele SR 2014-15,p-44,Sl no.-5.2.1)	No	8				8.00	6400.00	51200.00
20	Supplying and fixing **single phase preventer** using necessary wires over an existing panel board suitable for motar up to 20 HP capacities.(PWD Ele SR 2019-20,p-24/Sl no.5.3)	No	8				8.00	745.00	5960.00
21	**Wiring for lighting/power circuit** using one of FRLS PVC insulated 1100V grade multistrand copper conductor single core wire in open or concealed system of wiring as per IS 694:1990 & conforming to the attached GTP of group A. 4 sqmm (PWD Ele SR 2019-20,p-6,It-2.3.4(d)	Mtrs	8	20.00			160.00	45.00	7200.00
22	Supplying fixing and wiring **heavy duty low voltage capacitors** conforming to IS 2834 phase 400/440 volts grade, for power factor improvement of rotating machinery.(PWD Ele SR 2019-20,p-29/Sl no.5.37)	No	32				32.00	400.00	12800.00
23	Supplying, fixing, wiring, **earth electrode** for grounding conduits, I.C cotouts and other equipments on the meter board using 40mm dia 2.90 thick GI pipe 2.5 mtr long buried in a pit... The pit should be filled with equal proprotion of salt and charcoal 150mm alround the pipe to complete depth. The connection from the to the conduit etc., is to be established through GI wire of size as per ISI specification 7.3.3. of IS 732 using 12mm dia (PWD Ele SR 2019-20,p-40,Sl no.6.1)	No	8				8.00	2999.70	23998.00
24	**Digging of trench** of 0.36mtrs deepx0.5 mtrs wide refilling the trench to the required gorund level and consolidating etc., complete (PWD Ele SR 2019-20,p-41,It-6.6.2) hard soil	Mtrs	8	8.00			64.00	102.00	6528.00
25	Supplying of 1.1 KV LT UG cable XLPE or Heat resistant PVC insulated, PVC extruded Inner sheath armoured UG LT cable as per IS-1554 (Part-1) or IS-7098 Part-1, Armouring strip thickness in average +5% and resistivity 14 Ohms/Kms (Max) as per IS 3975 4 core 16 sqmm PWD Ele SR 2019-20,p-41,It-6.4.4)	Mtrs	8	10.00			80.00	150.00	12000.00
26	**Labour charge for laying 1.1 KV class UG cable** in existing trench GI pipe / stoneware pipe/ on wall / on poles as required in existing trench/duct. 6 sq mm to 16 sq mm(PWD Ele SR 2019-20 p-41,It-6.5.1)	No	8	25.00			200.00	10.80	2160.00
27	Supplying and fixing class-A(medium duty) **GI pipe wall** thickness not less then 3.25mm **on pole/wall/drain** crossing with necessary clamping arrangements for UG cable of 1.1KV class 40mm(PWD Ele SR 2018-90,p-41,It-6.9.1)	Rmt	8	2.00			16.00	335.00	5360.00
28	Supplying and fixing **LT cast iron pot heads** suitable for 1.1KV class UG cable filled with necessary bitumen / insulating compound complete with terminals,clamps bolts and nuts and washer etc.,complete for 16 sq mm as per specifications.(PWD Ele SR 2019-20,p-42,It-6.10.2)	No	8				8.00	270.00	2160.00
29	Supplying & fixing of Porcelain fuse channel with cut out on existing wooden/panel using necessary nuts, bolts and washers. 63 amps(PWD Ele SR 2014-15,p-45,It-5.7.3)	No	24				24.00	227.00	5448.00

Sl. No	Description of Item	Unit	No	length in m	Width in m	Depth in m	Quantity	Estimate Cost:- 100.00 Rate in Rs	Lakh Amount in Rs
30	**Dismantling of cement concrete pavement** by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled materials upto a lead of 1000 meters, stacking serviceable and unserviceable materials seperately complete as per specifications. MORTH Specification No. 202 (KPWD SR 2018-19, P-140, It 18.47)								
	Basic rate	899.00							
	A.W @ 6%	53.94							
	Total	**952.94**							
	Main line	Cum	8	283.00	0.45	0.20	203.76		
	Distribution(283/10=No's)		8	4.00	0.45	0.20	2.88		
							206.64	952.94	196916.00
31	**Earthwork excavation** for foundation of buildings, **water supply**, sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width, **in hard soil** not exceeding 1.5 m. in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50 m. after breaking of clods complete as per specifications. specification. No. KBS 2.1(b) / 2.3.5 (KPWD SR 2018-19, P-6, It-2.4)								
	Basic rate	449.00							
	A.W @ 6%	26.94							
	Total	**475.94**							
	Main line	Cum	8	283.00	0.45	0.30	305.64		
	Distribution(283/10=No's)		8	6.00	0.45	0.30	6.48		
							312.12	475.94	148550.00
32	Providing and fixing **Chorinated Poly Venyl Chloride (CPVC) pipes** conforming to IS 15778, having thermal stability for hot and cold water supply including all CPVC plain and brass threaded fittings, this includes jointing of pipes and fittings with one step CPVC solvent cement and testing of joints complete. (external work) - **50mm nominal** OD pipes (KPWD SR 2018-19, P-99, It-13.87.6)								
	Basic rate	432.00							
	A.W @ 6%	25.92							
	Total	**457.92**							
	Main line	Mtr	8	283.00			2264.00		
							2264.00	457.92	1036731.00
33	Making connection of **G.I.distribution** branch with G.I.main of 25mm to 40mm. Nominal bore, including cutting and threading the pipes,providing and fixing Tee, nuts,labour for all item of works,testing and HOM of equipments complete as per specifications. (P.No.93/ I.No. 13.20 of KPWD SR 2018-19)								
	Basic rate	483.00							
	A.W @ 6%	28.98							
	Total	**511.98**							
	Distribution(283/10=No's)	Each	8				8.00	511.98	4096.00
34	Providing and fixing **Chorinated Poly Venyl Chloride (CPVC) pipes** conforming to IS 15778 having thermal stability for hot and cold water supply including all CPVC plain and brass threaded fittings, this includes jointing of pipes and fittings with one step solvent cement, trenching, refilling & testing of joints complete. (external work). - **20mm nominal** OD pipes (KPWD SR 2018-19, P-98, It-13.85.2)								
	Basic rate	157.00							
	A.W @ 6%	9.42							
	Total	**166.42**							
	Distribution line	Mtr	8	6.00			48.00		
	Tap Connection		8	1.00			8.00		
							56.00	166.42	9320.00

Sl. No	Description of Item	Unit	No	length in m	Width in m	Depth in m	Quantity	Estimate Cost:- 100.00 Lakh Rate in Rs	Amount in Rs
35	Providing and fixing to wall, ceiling and floor **Medium density polyethylene pipes** 6.00 kgf/sq.cm working pressure **25mm outside diameter** with special flange, compression type fittings, wall clips, making good the wall, ceiling and floor, including cost of all materials, labour charges, HOM of equipments and testing complete as per specifications. Specification No.KBS 13.2.15.1 / 13.9 (KPWD SR 2018-19, P-95, It-13.67)								
	Basic rate	129.00							
	A.W @ 6%	7.74							
	Total	**136.74**							
	for other Purposes	Mtr	8	94.00			752.00		
							752.00	136.74	102828.00
36	KSRB 2-4 : **Refilling available around earth pipe lines**,cables in layers mot exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. And lift upto 1.5m. Including cost of all labour complete as per specifications.(KPWD SR 2018-19, P-7, it-2.11)								
	Basic rate	121.00							
	A.W @ 6%	7.26							
	Total	**128.26**							
	70% of Qty Vide item No.31	Cum					218.48	128.26	28023.00
37	**Loading and unloading** of stone boulder/stone aggregates/sand/kanker/ moorum. KSRRB M100-1:Placing tipper at loading point, loading with front end loader,dumping, turning for return trip, excluding time for haulage and return trip complete as per specification MORTH Chapter 1 (KPWD SR 2018-19,P-136, it.17.1)								
	Item No:-17.1 Loading	57.00							
	Conveying for 15km	38.4							
	Total	95.4							
	Balance Qty Vide item No. 30+ 30% of 31 item	Cum					300.28		
							300.28	95.4	28646.00
38	KSRB 2-4 : Providing and fixing in position **brass gate valve** with C.I.wheel of approved quality (screwed end) 50mm nominal bore including cost of all materials,labour and HOM of equipments with all leads complete as per specifications. (P.No.94/ I.No. 13.37 of KPWD SR 2018-19)								
	Basic rate	1739.00							
	A.W @ 6%	104.34							
	Total	**1843.34**							
	For Main Line	Each	8				8.00	1843.34	14747.00
39	KSRB13-6.2-1 : Providing and fixing in position **brass stop cock** of approved quality 15mm nominal bore including cost of all materials, labour and HOM of equipments with all leads complete as per specifications. Specification No.KBS 13.2.2 / 13.3 (Pg No:-93/I.No:-13.26 of KPWD SR 2018-19 2018-19)								
	Basic rate	141.00							
	A.W @ 6%	8.46							
	Total	**149.46**							
	Tap Connection	Each	8				8.00	149.46	1196.00
40	KSRB 4-1.3 : Providing and laying in position **plain cement concrete** of mix 1:4:8 with OPC cement @ 180kgs, with 40mm and down size graded granite metal coarse aggregates @0.85cum and fine aggregates @ 0.57cum machine mixed, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.13, I.No. 4.3 of KPWD SR 2018-19)								
	Basic rate	5102.0							
	A.W @ 6%	306.12							
	Total	**5408.12**							
	Main line		8	283.00	0.45	0.15	152.82		

Sl. No	Description of Item	Unit	No	Estimate Cost:- length in m	Width in m	Depth in m	Quantity	100.00 Rate in Rs	Lakh Amount in Rs
35	Providing and fixing to wall, ceiling and floor **Medium density polyethylene pipes** 6.00 kgf/sq.cm working pressure **25mm outside diameter** with special flange, compression type fittings, wall clips, making good the wall, ceiling and floor, including cost of all materials, labour charges, HOM of equipments and testing complete as per specifications. Specification No.KBS 13.2.15.1 / 13.9 (KPWD SR 2018-19, P-95, It-13.67)								
	Basic rate	129.00							
	A.W @ 6%	7.74							
	Total	**136.74**							
	for other Purposes	Mtr	8	94.00			752.00		
							752.00	136.74	102828.00
36	KSRB 2-4 : **Refilling available around earth pipe lines**,cables in layers mot exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. And lift upto 1.5m. Including cost of all labour complete as per specifications.(KPWD SR 2018-19, P-7, it-2.11)								
	Basic rate	121.00							
	A.W @ 6%	7.26							
	Total	**128.26**							
	70% of Qty Vide item No.31	Cum					218.48	128.26	28023.00
37	**Loading and unloading** of stone boulder/stone aggregates/sand/kanker/ moorum. KSRRB M100-1:Placing tipper at loading point, loading with front end loader,dumping, turning for return trip, excluding time for haulage and return trip complete as per specification MORTH Chapter 1 (KPWD SR 2018-19,P-136, it.17.1)								
	Item No:-17.1 Loading	57.00							
	Conveying for 15km	38.4							
	Total	95.4							
	Balance Qty Vide item No. 30+ 30% of 31 item	Cum					300.28		
							300.28	95.4	28646.00
38	KSRB 2-4 : Providing and fixing in position **brass gate valve** with C.I.wheel of approved quality (screwed end) 50mm nominal bore including cost of all materials,labour and HOM of equipments with all leads complete as per specifications. (P.No.94/ I.No. 13.37 of KPWD SR 2018-19)								
	Basic rate	1739.00							
	A.W @ 6%	104.34							
	Total	**1843.34**							
	For Main Line	Each	8				8.00	1843.34	14747.00
39	KSRB13-6.2-1 : Providing and fixing in position **brass stop cock** of approved quality 15mm nominal bore including cost of all materials, labour and HOM of equipments with all leads complete as per specifications. Specification No.KBS 13.2.2 / 13.3 (Pg No:-93/I.No:-13.26 of KPWD SR 2018-19 2018-19)								
	Basic rate	141.00							
	A.W @ 6%	8.46							
	Total	**149.46**							
	Tap Connection	Each	8				8.00	149.46	1196.00
40	KSRB 4-1.3 : Providing and laying in position **plain cement concrete** of mix 1:4:8 with OPC cement @ 180kgs, with 40mm and down size graded granite metal coarse aggregates @0.85cum and fine aggregates @ 0.57cum machine mixed, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.13, I.No. 4.3 of KPWD SR 2018-19)								
	Basic rate	5102.0							
	A.W @ 6%	306.12							
	Total	**5408.12**							
	Main line		8	283.00	0.45	0.15	152.82		

Sl. No	Description of Item	Unit	No	length in m	Width in m	Depth in m	Quantity	Estimate Cost:- 100.00 Lakh Rate in Rs	Amount in Rs
	Distribution(283/10=No's)	Cum	8	6.00	0.45	0.15	3.24		
							156.06	5408.12	843991.00
41	Providing and laying **cement concrete** using 20 mm and down size granite coarse aggregates and fine aggregates of ready mixed concrete **(RMC) M 20** for R.C.C works laid in 15 cms thick layers and well compacted vibrating, curing, for foundations & sub-structure works with all lead and lifts etc., complete (exclusive of cost of steel and fabrication charges.) (P.No.18, I.No. 4.48 of KPWD SR 2018-19)								
	Basic rate	5444.0							
	A.W @ 6%	326.64							
	Total	**5770.64**							
	Main line	Cum	8	283.00	0.45	0.15	152.82		
	Distribution(283/10=No's)		8	6.00	0.45	0.15	3.24		
							156.06	5770.64	900566.00
	Sub Total						8418209.00		8417993.00
	TP 5%						420910.45		420899.65
	GST 12%						1060694.33		1060667.12
	Project Management Consultancy 1%								100000.00
	Miscelleneous & Rounding off						186.22		440.23
	Grand Total								10000000.00

CERTIFICATE

1.The site has been inspected and the work is found to be necessary.
2.The estimate is based on KPWD SR of 2018-19, 2016-17, PRE SR of 2012-13 and Ele SR:2019-20
3.The provisions were made in this estimate are necessary and adequate.
4.The area comes under the Bruhat Bengaluru Mahanagara Palike Limits.

Asst Engineer
Ward- 17
BBMP

Asst Executive Engineer
Yeshwanthpura Sub divison
BBMP

Executive Engineer
RR Nagar Division
BBMP

ನಂ.: 292 Dated: 18/02/2020
ರೂ. 100 (Rupees one hundred lakh only)
ಅಂದಾಜು ಪತ್ರಿಕೆ ಮೊತ್ತಕ್ಕೆ ಆಡಳಿತಾತ್ಮಕ ಅನುಮೋದನೆ ನೀಡಿದೆ.

TECHNICAL SANCTION
Rs: 10000000/- (Rs one crore only)
is accorded under the head: P - 3588
By CE(R.R.N.,) P.N. 156-157
Registered as CE (R.R.N) No: 603/19-20
Subject to conditions contained in enclosed memo No: 603/19-20 Date. 25/02/2020
TA,
CE (R.R.N.)